Homework 7: While Loops

CS 1323/4 Fall 2023

Name: _____

Student ID (usually 112-XXX-XXXX or 113-XXX-XXXX): _____

1. (20 points; 4 points each) Trace the loops in the tables to the right of the code. **If the loop is an infinite loop, trace three iterations and write "infinite loop."**

a)

```
int accum = 93842;
int count = 10;
while (accum > 0)
{
        accum = accum / 10;
        count = count – 1;
}
```

accum	count

b)

```
int accum = 0;
int count = 7;
while (accum == 0)
{
        accum = accum * 2;
        count = count + 1;
}
```

accum	count

c)

```
double value = 45.3;
int count = 0;
final double LOWER_RANGE = 25.0;
final double UPPER_RANGE = 50.0;
while (LOWER_RANGE <= value && value <= UPPER_RANGE)
{
        count = count + 1;
        value = value – 5.0;
}
```

count	value

d) The user entered the input below in the console window:
5 3 16 4 22 1 9 -2

```
Scanner keyboard = new Scanner(System.in);
final int SENTINEL = 1;
final int LIMIT = 15;
int accum = 0;
int data = 0;
data = keyboard.nextInt();
while (data > SENTINEL)
{
        if (data < LIMIT)
        {
                accum = accum + data;
        }
        data = keyboard.nextInt();

}
keyboard.close();
```

accum	data

e)

```
int sum = 0;
int data = 5;
while (data <= 20 || sum <= 30 )
{
        sum = sum + data;
        data = data + 5;
}
```

sum	data